Engineering Interpretations

Water Management

Interpretations of soils for water management are given as limitations for pond reservoir areas; embankments, dikes, and levees; excavated pond (aquifer-fed); and as restrictive features that affect drainage, irrigation, terraces and diversions, and grassed waterways.

POND RESERVOIR AREA is the area that holds water behind a dam or embankment. Soils best suited to this use have a low seepage potential, which is determined by the permeability and depth to fractured or permeable bedrock, or other permeable material.

EMBANKMENTS, DIKES, AND LEVEES are raised structures of soil material constructed to impound water or protect land against overflow. They generally are less than 20 feet high and are constructed of "homogeneous" soil material (without a core zone) and compacted to medium density.

EXCAVATED PONDS (AQUIFER-FED) are bodies of water created by excavating a pit or dugout into a ground-water aquifer. Excluded are ponds which are fed by surface runoff or that have embankments that impound water 3 feet or more above the original surface.

DRAINAGE is the process of removing excess surface and subsurface water from agricultural land. Soil features are listed that affect grading, excavation, and stability of trench sides or ditch banks. Features are also listed which might affect productivity after drainage is installed. The availability of drainage outlets must also be considered.

IRRIGATION is the controlled application of water to supplement rainfall for supporting plant growth. Soil features are listed that affect design, layout, construction, management, or performance of an irrigation system.

TERRACES AND DIVERSIONS are embankments or a combination of an embankment and a channel constructed across a slope to control erosion by diverting or storing surface runoff instead of permitting it to flow uninterrupted down the slope. Soil features are listed that affect the construction of terraces and diversions and that may cause problems after construction.

GRASSED WATERWAYS are natural or constructed channels that generally are broad and shallow and are covered with erosion-resistant grasses. They are used to conduct surface water to outlets at a nonerosive velocity. Soil features are listed that affect the construction and maintenance of the waterway, and also that affect the growth of grass after construction.

This subsection includes:

• (a) Water Management

Water Management

Map symbol and soil name	soil name		 Drainage 		 Irrigation 		 Terraces and divers	ions	Grassed waterways	
	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value
10: Bremer	 Not limited 		 Slightly limited ~percs slowly (slightly limited) 	 0.13 	 Moderately limited ~slow intake (moderately limited) ~percs slowly (slightly limited)	 0.60 0.13	 Moderately limited ~wetness (moderately limited) 	 0.60 	 Moderately limited ~wetness (moderately limited) 	 0.60
11: Chequest	 Not limited 		 Moderately limited ~flooding (moderately limited) ~percs slowly (slightly limited)	1	 Moderately limited ~slow intake (moderately limited) ~flooding (moderately limited) ~percs slowly (slightly limited)	0.60	 Moderately limited ~wetness (moderately limited) 	 0.44 	 Moderately limited ~wetness (moderately limited) 	 0.44
12C2: Armstrong	 Moderately limited ~slope (moderately limited)	 0.30 	 Limited ~slope (limited) ~percs slowly (moderately limited)	 0.39	 Limited ~slope (limited) ~percs slowly (moderately limited)	 0.98 0.39	 Moderately limited ~wetness (moderately limited) ~slope (moderately limited)	 0.44 0.30	 Moderately limited ~wetness (moderately limited) ~slope (moderately limited)	0.44
13: Tice	 Moderately limited ~seepage (moderately limited)	 0.50 	 Moderately limited ~flooding (moderately limited)	 0.60 	 Moderately limited ~flooding (moderately limited)	 0.60 	 Moderately limited ~wetness (moderately limited)	 0.36 	 Moderately limited ~wetness (moderately limited)	0.36
14: Belknap	 Moderately limited ~seepage (moderately limited) 	0.32	 Moderately limited ~flooding (moderately limited) 	 0.60 	 Moderately limited ~flooding (moderately limited) ~erodes easily (moderately limited)	0.60	 Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	 0.60 0.44	 Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	 0.60 0.44

Water Management

Map symbol and soil name	Pond reservoir areas		Drainage				Terraces and diversions		 Grassed waterways	
	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value
15B: Gorin	 Slightly limited ~slope (slightly limited)	0.10	 Moderately limited ~slope (moderately limited) ~percs slowly (moderately limited)	0.39	 Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited) ~percs slowly (moderately limited)	0.39	 Moderately limited ~erodes easily (moderately limited) ~slope (slightly limited)	0.60	(moderately limited)	0.60
15C2: Gorin	 Moderately limited ~slope (moderately limited)	 0.45 	 very limited ~slope (very limited) ~percs slowly (moderately limited)	0.39	 very limited ~slope (very limited) ~erodes easily (moderately limited) ~percs slowly (moderately limited)	 1.00 0.60 0.39	(moderately limited)	0.45	 Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	0.45
16F2: Vanmeter	~slope (very limited)	 1.00 0.63 	Very limited ~slope (very limited) ~percs slowly (very limited)	 1.00 1.00 	 Very limited ~percs slowly (very limited) ~slope (very limited) ~erodes easily (moderately limited)	 1.00 1.00 0.60	(very limited)	 0.60 0.58	 very limited ~slope (very limited) ~depth to bedrock (limited) ~erodes easily (moderately limited)	 1.00 0.63 0.60
17D2: Goss	 Very limited ~seepage (very limited) ~slope (limited)	 1.00 0.99 	Very limited ~slope (very limited)	 1.00 	 Very limited ~slope (very limited) ~droughty (slightly limited) ~large stones (slightly limited)	 1.00 0.17 0.00	 Very limited ~large stones (very limited) ~slope (limited) 	 1.00 0.99 	 Very limited ~large stones (very limited) ~slope (limited) ~droughty (slightly limited)	 1.00 0.99 0.17

Water Management

Map symbol and soil name	Pond reservoir are	as	Drainage 		Irrigation 		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
17F: Goss	 Very limited ~slope (very limited) ~seepage (very limited)	1.00	 Very limited ~slope (very limited) 	1.00	 Very limited ~slope (very limited) ~droughty (moderately limited) ~large stones (slightly limited)	 1.00 0.34 0.05	 Very limited ~slope (very limited) ~large stones (very limited)	 1.00 1.00	 Very limited ~slope (very limited) ~large stones (very limited) ~droughty (moderately limited)	1.00 1.00 0.34
18C2: Keswick	 Moderately limited ~slope (moderately limited)		 Very limited ~slope (very limited) ~percs slowly (moderately limited)	1.00	 Very limited ~slope (very limited) ~erodes easily (moderately limited) ~percs slowly (moderately limited)	 1.00 0.60 0.39	Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited) ~wetness (moderately limited)	0.45	(moderately limited) ~slope (moderately limited)	0.45
18D: Keswick	 Limited ~slope (limited) 	 0.99 	 Very limited ~slope (very limited) ~percs slowly (moderately limited)	0.39	 Very limited ~slope (very limited) ~percs slowly (moderately limited)	 1.00 0.39	 Limited ~slope (limited) ~wetness (moderately limited)	0.44	Limited -slope (limited) -wetness (moderately limited)	0.99
20C2: Leonard	Slightly limited ~slope (slightly limited)	 0.20 	 Limited ~slope (limited) ~percs slowly (moderately limited)	 0.78 0.39 	 Limited ~slope (limited) ~erodes easily (moderately limited) ~slow intake (moderately limited)	 0.78 0.60 0.60	 Limited ~wetness (limited) ~erodes easily (moderately limited) ~slope (slightly limited)	 0.81 0.60 0.20	(limited) ~erodes easily (moderately limited)	0.81

Water Management

Map symbol and soil name	Pond reservoir areas		Drainage				Terraces and divers	Grassed waterways		
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value
23B: Menfro	 Moderately limited ~seepage (moderately limited) ~slope (slightly limited)	 0.50 0.10	 Moderately limited ~slope (moderately limited) 	0.40	 Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	0.60	 Moderately limited ~erodes easily (moderately limited) ~slope (slightly limited)	0.60	 Moderately limited ~erodes easily (moderately limited) ~slope (slightly limited)	 0.60 0.10
23C2: Menfro	 Moderately limited ~seepage (moderately limited) ~slope (moderately limited)	 0.50 0.45	 Very limited ~slope (very limited)	 1.00 	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	 0.60 0.45	Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	0.45
23D2: Menfro	~slope (limited)	 0.99 0.50	 Very limited ~slope (very limited) 	 1.00 	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	 Limited ~slope (limited) ~erodes easily (moderately limited)	 0.99 0.60 	Limited ~slope (limited) ~erodes easily (moderately limited)	 0.99 0.60
23E2: Menfro	~slope (very limited)	 1.00 0.50	 Very limited ~slope (very limited) 	 1.00 	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60
23F: Menfro	~slope (very limited)	1.00	 Very limited ~slope (very limited) 	 1.00 	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60

Water Management

Map symbol and soil name	soil name	as	 Drainage 		Irrigation		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value 	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24B: Mexico	 Not limited 		 Very limited ~percs slowly (very limited) ~slope (slightly limited)	İ	 Very limited ~percs slowly (very limited) ~erodes easily (moderately limited) ~slope (slightly limited)	 1.00 0.60 0.10	 Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	0.60	 Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	0.53
24B2: Mexico	 Slightly limited ~slope (slightly limited) 	 0.10 	 Very limited ~percs slowly (very limited) ~slope (moderately limited)	 0.40	 Very limited ~percs slowly (very limited) ~erodes easily (moderately limited) ~slow intake (moderately limited)	 1.00 0.60 0.60	Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited) ~slope (slightly limited)	 0.60 0.53 0.10	Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited) ~slope (slightly limited)	0.53
25A: Moniteau	 Moderately limited ~seepage (moderately limited)	 0.50 	 Moderately limited ~flooding (moderately limited) ~percs slowly (slightly limited)		 Moderately limited ~flooding (moderately limited) ~erodes easily (moderately limited) ~percs slowly (slightly limited)	0.60	 Very limited ~wetness (very limited) ~erodes easily (moderately limited)	1.00 0.60	 very limited ~wetness (very limited) ~erodes easily (moderately limited)	 1.00 0.60
26: Putnam	 Not limited 		 Very limited ~percs slowly (very limited) 	 1.00 	 Very limited ~percs slowly (very limited) ~erodes easily (moderately limited)	 1.00 0.60	Limited -wetness (limited) -erodes easily (moderately limited)	0.99 0.60	Limited ~wetness (limited) ~erodes easily (moderately limited)	 0.99 0.60

Water Management

Map symbol and soil name	Pond reservoir area 	as	 Drainage 		Irrigation 		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30B: Weller	 Not limited 		 Moderately limited ~percs slowly (moderately limited) ~slope (slightly limited)	j	 Moderately limited ~erodes easily (moderately limited) ~percs slowly (moderately limited) ~slope (slightly limited)	0.39	 Moderately limited ~erodes easily (moderately limited)	0.60	Moderately limited -erodes easily (moderately limited)	0.60
31B: Winfield	 Moderately limited ~seepage (moderately limited) ~slope (slightly limited)		 Moderately limited ~slope (moderately limited)	 0.40 	 Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	0.40	 Moderately limited ~erodes easily (moderately limited) ~slope (slightly limited)		 Moderately limited ~erodes easily (moderately limited) ~slope (slightly limited)	 0.60 0.10
31C2: Winfield	 Moderately limited ~seepage (moderately limited) ~slope (moderately limited)	0.50	 Very limited ~slope (very limited)	 1.00 	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	 0.60 0.45	 Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	 0.60 0.45
31D2: Winfield	 Limited ~slope (limited) ~seepage (moderately limited)	 0.99 0.50	 Very limited ~slope (very limited)	 1.00 	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	 Limited ~slope (limited) ~erodes easily (moderately limited)	0.99 0.60 	(limited)	 0.99 0.60
32: Carlow	 Not limited 		 Very limited ~percs slowly (very limited) ~flooding (moderately limited) 	ĺ	 Very limited ~percs slowly (very limited) ~slow intake (limited) ~flooding (moderately limited)	 1.00 0.70 0.60	 Very limited ~wetness (very limited) ~erodes easily (moderately limited)	1.00 0.60	 Very limited ~wetness (very limited) ~erodes easily (moderately limited)	 1.00 0.60

Water Management

Map symbol and soil name	Pond reservoir areas		Drainage 		 Irrigation 		Terraces and diversions		Grassed waterways	
	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34D: Bucklick	Limited ~slope (limited) ~seepage (moderately limited) ~depth to bedrock (moderately limited)	0.50	 very limited ~slope (very limited)	1.00	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	 Limited ~slope (limited) ~erodes easily (moderately limited) ~depth to bedrock (moderately limited)	0.99	 Limited ~slope (limited) ~erodes easily (moderately limited) ~depth to bedrock (moderately limited)	0.50
35A: Okaw	 Not limited 		 Very limited ~ponded (wetness) (very limited) ~percs slowly (very limited)	Í	 Very limited ~ponded (wetness) (very limited) ~percs slowly (very limited) ~erodes easily (moderately limited)	 1.00 1.00 0.60	 Very limited ~ponded (wetness) (very limited) ~wetness (very limited) ~erodes easily (moderately limited)	 1.00 1.00 0.60	(very limited)	 1.00 0.60
36D: Ranacker	Limited ~slope (limited) ~depth to bedrock (limited)	 0.99 0.95 	Very limited ~slope (very limited) ~large stones (very limited) ~depth to bedrock (limited)	1.00	(very limited) ~droughty (very limited)	 1.00 1.00 0.73	 Very limited ~depth to bedrock (very limited) ~large stones (very limited) ~slope (limited)	 1.00 1.00 0.99	(very limited)	 1.00 1.00 0.99
38: Chequest	 Not limited 	 	 Limited ~flooding (limited) ~percs slowly (slightly limited)	0.90	 Limited ~flooding (limited) ~slow intake (moderately limited) ~percs slowly (slightly limited)	 0.90 0.60 0.13	 Moderately limited ~wetness (moderately limited) 	 0.44 	 Moderately limited ~wetness (moderately limited) 	0.44

Water Management

Map symbol and Pond reservoir area soil name		as	 Drainage 	 Irrigation 		Terraces and divers	ions	Grassed waterways		
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
41: Klum	 Very limited ~seepage (very limited)	1.00	 Limited ~cutbanks cave (limited ~flooding (moderately limited)	0.90	 Moderately limited ~flooding (moderately limited)	0.60	 Not limited 		Not limited	
45C2: Minnith	Moderately limited ~slope (moderately limited) ~seepage (moderately limited)	 0.45 0.32	 Very limited ~slope (very limited) 	 1.00 	 Very limited ~slope (very limited) ~erodes easily (moderately limited)	 1.00 0.60	Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	 0.60 0.45	Moderately limited ~erodes easily (moderately limited) ~slope (moderately limited)	 0.60 0.45
46: Pits	 Not rated 	 	 Not rated 	 	 Not rated 		 Not rated		Not rated	
47: Twomile	 Moderately limited ~seepage (moderately limited)	0.50	 Moderately limited ~flooding (moderately limited) ~percs slowly (moderately limited)	0.60	Moderately limited ~flooding (moderately limited) ~erodes easily (moderately limited) ~percs slowly (moderately limited)	0.39	Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	0.60	Moderately limited -erodes easily (moderately limited) -wetness (moderately limited)	0.60
48: Dockery	 Moderately limited ~seepage (moderately limited) 	 0.50 	 Limited ~flooding (limited) 	 0.90 	 Limited ~flooding (limited) ~erodes easily (moderately limited)	0.90	 Moderately limited ~erodes easily (moderately limited) ~wetness (slightly limited)	 0.60 0.28	Moderately limited -erodes easily (moderately limited) -wetness (slightly limited)	 0.60 0.28

Water Management

Map symbol and soil name	Pond reservoir are	Pond reservoir areas		Drainage		 Irrigation		Terraces and diversions		s
	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50A: Dameron	 Moderately limited ~seepage (moderately limited)	 0.50	 Moderately limited ~flooding (moderately limited)	 0.60	 Moderately limited ~flooding (moderately limited)	 0.60	 Not limited 		 Not limited 	
Cedargap	Moderately limited ~seepage (moderately limited)	 0.50 	Limited -flooding (limited) -large stones (slightly limited	0.90	Limited ~flooding (limited)	 0.90 	Slightly limited ~large stones (slightly limited)	 0.23 	Slightly limited ~large stones (slightly limited)	0.23
51A: Haymond	 Moderately limited ~seepage (moderately limited)	 0.50 	 Moderately limited ~flooding (moderately limited)	 0.60 	 Moderately limited ~flooding (moderately limited) ~erodes easily (moderately limited)	 0.60 0.60	 Moderately limited ~erodes easily (moderately limited)	 0.60 	 Moderately limited ~erodes easily (moderately limited)	 0.60
55: Blackoar	 Moderately limited ~seepage (moderately limited)	 0.50	 Moderately limited ~flooding (moderately limited)	 0.60 	 Moderately limited ~flooding (moderately limited)	 0.60 	 Very limited ~wetness (very limited)	 1.00 	 Very limited ~wetness (very limited)	1.00
74A: Healing	Moderately limited ~seepage (moderately limited)	 0.50	Not limited	 	 Moderately limited ~erodes easily (moderately limited)	 0.60	 Moderately limited ~erodes easily (moderately limited)	 0.60 	 Moderately limited ~erodes easily (moderately limited)	0.60
77B: Calwoods	 Not limited 		 Very limited ~percs slowly (very limited) ~slope (slightly limited)	İ	 Very limited ~percs slowly (very limited) ~erodes easily (moderately limited) ~slope (slightly limited)	 1.00 0.60 0.10	 Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	 0.60 0.53 	 Moderately limited ~erodes easily (moderately limited) ~wetness (moderately limited)	0.53

Water Management

Map symbol and soil name	Pond reservoir area	Pond reservoir areas		 Drainage 		 Irrigation 		ions	Grassed waterways	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
78: Dupo	 Moderately limited ~seepage (moderately limited)	0.50	 Moderately limited ~flooding (moderately limited) ~percs slowly (moderately limited)	0.60	 Moderately limited ~flooding (moderately limited) ~erodes easily (moderately limited) ~percs slowly (moderately limited)	0.60	 Moderately limited ~erodes easily (moderately limited) ~wetness (slightly limited)	 0.60 0.26	 Moderately limited ~erodes easily (moderately limited) ~wetness (slightly limited)	0.60
86: Udorthents	 Not rated 		 Not rated 	 	 Not rated 	 	 Not rated 	 	 Not rated 	
87C2: Crider	Moderately limited ~seepage (moderately limited) ~slope (moderately limited)	0.50	Limited ~slope (limited)	 0.98	 Limited ~slope (limited) 	 0.98 	 Moderately limited ~slope (moderately limited)	0.30	 Moderately limited ~slope (moderately limited) 	0.30
88C2: Crider	 Moderately limited ~seepage (moderately limited) ~slope (moderately limited)	0.50	 Very limited ~slope (very limited)	 1.00 	 Very limited ~slope (very limited)	 1.00 	 Moderately limited ~slope (moderately limited)	 0.45 	 Moderately limited ~slope (moderately limited)	0.45
88D2: Crider	~slope (limited)	0.99	 Very limited ~slope (very limited)	 1.00 	 Very limited ~slope (very limited) 	 1.00 	 Limited ~slope (limited) 	 0.99 	 Limited ~slope (limited) 	0.99

Water Management

Map symbol and soil name	Pond reservoir area 	as	Drainage		Irrigation 		 Terraces and divers 	ions	Grassed waterways	
	Rating class and limiting features	Value 	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
90B: Wakenda	 Moderately limited ~seepage (moderately limited) ~slope (slightly limited)	0.50	 Moderately limited ~slope (moderately limited)	0.40	 Moderately limited ~slope (moderately limited)	0.40	Slightly limited ~slope (slightly limited)	0.10	 Slightly limited ~slope (slightly limited)	0.10
90C: Wakenda	~seepage (moderately limited)	 0.50 0.45	 Very limited ~slope (very limited) 	 1.00 	 Very limited ~slope (very limited) 	 1.00 	 Moderately limited ~slope (moderately limited) 	 0.45 	 Moderately limited ~slope (moderately limited) 	0.45
M-W: Water	 Not rated 	 	 Not rated 	 	 Not rated 	 	 Not rated 	 	 Not rated	
W: Water	 Not rated 	 	 Not rated 	 	 Not rated 	 	 Not rated 		 Not rated 	